



STUMPING FOR THE PROJECT

by Carol Ginty

ADVOCATING RESEARCH IS A LITTLE TRICKIER THAN SELLING OTHER PROJECTS AT NASA. YOU CAN POINT TO A SATELLITE. YOU CAN POINT TO A ROCKET. YOU CAN SEE THE SHUTTLE AND THE INTERNATIONAL SPACE STATION. BUT IT'S DIFFERENT ON THE RESEARCH SIDE. HOW DO YOU DISPLAY COMPUTATIONAL FLUID DYNAMICS? HOW DO YOU GET SOMEONE TO UNDERSTAND THE VALUE OF COMPOSITE MATERIALS OR NANO-TUBES THAT THEY CAN'T EVEN SEE WITHOUT A MICROSCOPE?

WHERE I WORK AT NASA'S JOHN GLENN RESEARCH Center, we joke about how we all went to engineering school, but what we really needed were classes in political science and marketing. These days, it seems that technical decisions aren't made strictly based on the merits of the technology. At their root, decisions about research projects are largely political.

It all comes down to this: How do you convince people that low-visibility projects have the potential to change the way they live, and that they share a vested interest in the outcome of this work? And it's not just the American public or Congress that I need to convince. I've found that I have to do a lot of "stumping" within the Agency about why this technology is so important.

As a project manager, I have to be aware of what's going on at my research institution relative to other

Turn up the heat: Material processing facilities at the John Glenn Research Center host high-temperature research. DONALD HUEBLER

programs and projects—and I have to be on the lookout for any threats that might be coming my project's way. When my program manager, Gary Seng, gets mandated budget cuts, he has to take the money out somewhere. An important part of my job is convincing him that my

wasting money. Instead, I point out that a think tank at Stanford University recently did a study and concluded that raising the engine temperature 50 degrees Fahrenheit across the entire fleet of commercial airlines would save \$1 billion annually in fuel consumption.

That gets people's attention. And that's what I mean by selling the project.

I have learned that the technical paper doesn't sell a project. Frequently at reviews, you watch people nod off in the middle of all the technical data. While it's exciting to the researcher,

it's often boring to the decision makers. If you want their vote, you need to get their attention and you need to show them value.

How do you get someone to understand the value of composite materials or nano-tubes that they can't even see without a microscope?

project shouldn't be the one that gets cut.

It helps that I'm genuinely passionate about what we're doing. So, whenever I have the opportunity to present our technology to upper management, I don't simply report the status of our milestones. I try to make every presentation exciting. I show the potential of what we're working on and I talk about benefits down the road. I spin the project however and to whomever I think it needs to be spun.

Currently, I'm managing advanced high temperature materials research. Almost every system study has identified materials as the key to future technological developments. So, I'm always out there looking for any nugget of information that I can pull from one of the studies. I'm looking for that sound bite capable of influencing someone in about 30 seconds—something that will leave him or her thinking, "Oh, we really do need this materials research."

The technology being developed in my project will enable a commercial subsonic engine to perform at higher temperatures. When you raise the temperature in an engine, the engine runs more efficiently. You reduce emissions and save money because the engine burns less fuel. Most current materials have reached their inherent thermal capabilities. So, we are developing both new material systems and coatings for existing materials to achieve this goal.

If I simply told you that millions of dollars have gone into this research and that the operating temperature of an engine has been increased by 100 degrees Fahrenheit, you might jump to the conclusion that we haven't accomplished much, and that we've been

LESSONS

- There are times when the role of the project leader is simply to sell the project. On a research project it is often more crucial and more difficult, and requires focus, effort, and creativity.

QUESTION

Is there a point at which "selling" a project can become "selling out" a project?

I have learned that the technical paper doesn't sell a project.



CAROL GINTY has held several positions at the John Glenn Research Center over the last 20 years, all involved with the research and development of advanced propulsion materials for aeronautics applications. In 1989, she became a subproject manager for Analytical Methods in the High Temperature Materials (HITEMP) Program where first-life prediction methods were formulated for high temperature composites. In 1991, she became the Deputy Program Manager for HITEMP and assumed the role of Manager in 1998. She was responsible for the successful completion of the program, which had an unprecedented, 12-year uninterrupted life cycle. In 2000, she formulated a follow-on project, Higher Operating Temperature Propulsion Components (HOTPC), and is currently managing that effort.